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United States Patent [19]

Megerian

[54] **METHOD AND DISTRIBUTED DATABASE FILE SYSTEM FOR IMPLEMENTING SELF-DESCRIBING DISTRIBUTED FILE OBJECTS**

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[58] **Field of Search** 395/220.31, 200.47, 395/133, 62, 200.75; 711/216; 707/10, 103, 104; 370/409

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[57] **ABSTRACT**

A method and apparatus are provided for implementing self-describing file objects. A node group is created for defining multiple computer systems for storing data. A hash algorithm for applying to data records is identified. A partition distribution map for distributing data to each of the multiple computer systems utilizing a set of predetermined hash algorithm results and remote system information for each of the multiple computer systems are identified. A file object is created in each of the multiple computer systems. Each the file objects includes the hash algorithm, the partition distribution map, and the remote system information. A data record is inserted into one of the distributed file objects by receiving the data record, applying the hash algorithm to the received data record, comparing the hash algorithm result with the partition distribution map to identify the particular computer system for the data record, utilizing the system information to establish connection to that system. The file objects are fully self-describing, eliminating the need for additional objects to be addressed, opened, paged into memory or the like.

16 Claims, 4 Drawing Sheets

DISTRIBUTED FILE OBJECT 18

DISTRIBUTED FILE INFORMATION 30

HASH ALGORITHM 31
PARTITION DATA 32 0-SYSTEM 1 1-SYSTEM 2 2-SYSTEM 3 3-SYSTEM 1 4-SYSTEM 2 * * * * * *
REMOTE SYSTEM INFORMATION 34
SYSTEM 1-CONTROLLER, DEVICE, LINE, HARDWARE INFO, REMOTE SYSTEM NAME * * * SYSTEM N
DATA
* * *
DATA

DATA 36 →